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Stephen B. Salai, Esq. Harter, Secrest & Emery LLP 1600 Bausch & Lomb Place Rochester, NY 14604-2711			EXAMINER KYLE, MICHAEL J	
			ART UNIT 3676	PAPER NUMBER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/073,730

Filing Date: February 11, 2002

Appellant(s): MUIR, MALCOLM

\_\_\_\_\_  
Brian B. Shaw  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed April 23, 2004.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

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Examiner agrees with appellant's grouping of the claims.

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

5,898,977	MUIR	05-1999
2,731,229	SEITZ	01-1956
6,073,405	KASAI ET AL	06-2000

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muir in view of Seitz.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muir in view of Seitz and further in view of Kasai. Examiner notes that in the Final Office Action (Paper No. 5, mailed on September 16, 2003), claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Muir in view of Kasai et al. However, claim 7 depends from claim 1, which stands rejected under 35 U.S.C. 103(a) as being unpatentable over Muir in view of Seitz.

Examiner believes it is clear that claim 7 was intended to be rejected under the combination of Muir in view of Seitz, as applied to claim 1, and further in view of Kasai et al. The statement of the rejections below have been edited to show this.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muir (U.S. Patent No. 5,898,997) in view of Seitz (U.S. Patent No. 2,731,229). Muir discloses a supporting bracket (10) having an elongate track (12), end cap (60 in Fig. 3A), seating portion (61), upright portion, pair of facets (66), and pair of camming surfaces (64) substantially as claimed by applicant. Muir fails to disclose the reinforcing rib as claimed.

Seitz teaches an end cap having at least one reinforcing rib (12) extending from the seating portion (11) to the upright portion (20, 25). The seating portion, upright portion and reinforcing rib are formed from an integral piece of metal (col. 2, lines 35-40). The reinforcing rib corresponds with a recess on an outside surface and extends along a greater length on the seating portion than on the upright portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Muir's end cap having reinforcing ribs similar to Seitz's invention for the purpose of strengthening the end cap at the longitudinal portion thereof (col. 2, lines 47-50) in order for the end cap to withstand more force.

With respect to claim 8, the combination of Muir and Seitz discloses the claimed invention except for the amount of the maximum weight the end cap is able to withhold. It would have been obvious to one having ordinary skill in the art at the time the invention was

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made to adjust the maximum load capacity of an end cap to 170 psi, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 9, regarding the height of the reinforcing rib, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Where the range of article sizes disclosed in the prior art envelops the recited range, and there is no showing of criticality of the recited range, such recited range would have been obvious to one of ordinary skill in the art. In re Reven, 390 F.2d 997, 156 USPQ 679 (CCPA 1968). Applicant has not shown any criticality to the range of heights. Therefore, the claim is not considered patentable.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muir in view of Seitz as applied to claim 1 above, and further in view of Kasai et al ("Kasai", U.S. Patent no. 6,073,405). Muir and Seitz disclose applicant's invention except for a reinforcing rib to be formed from added metal.

7. Kasai teaches an end cap (154 in Fig. 7, 187 in Fig. 8) having at least one reinforcing rib (170 in Fig. 7, 190 in Fig 8) extending from a seating portion (156, 180) to an upright portion (162, 134) and where the reinforcing rib is formed of added metal (col. 11, lines 58 -61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Muir and Seitz with ribs similar to Kasai's invention for the purpose of reinforcing the bracket, thus adding structural strength to the bracket and increasing the load capacity thereof.

### FINDINGS OF FACT

The following findings of fact have been made by the examiner with respect to the references of Muir, Seitz, and Kasai et al.

1) Muir discloses a multi-bar hinge assembly with a support bracket (10) and an elongate track (12).

2) Muir discloses an end cap (60) with a seating portion (61) and an upright portion (66). The seating portion (61) engages the track (12).

3) Seitz discloses a mounting bracket (10) with a seating portion (11) and upright portions or arms (20, 25) with at least one reinforcing rib (12) running from the seating portion to the upright portion.

4) Kasai et al discloses a reinforcing rib (170 in figure 7, 190 in figure 8) extending from seating portion (156, 180) to an upright portion (162,134) made of added metal (column 11, lines 58-61).

#### **(11) *Response to Argument***

As an initial matter, examiner notes appellant's footnote on page 1 of the Appeal Brief where appellant assumes that claims 11 and 12 stand rejected under the same grounds as the claim from which they depend. Appellant's assumption is correct.

Appellant argues that examiner has not cited any basis or need for strengthening the end cap of the cited hinge assembly. Appellant appears to be presenting this argument on all of page 4, the fifth paragraph of page 5, and the first paragraph of page 6.

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The structural feature taught by Seitz is the at least one reinforcing rib (12 in Seitz), as recited in claim 1 of the instant application. Seitz discloses these features as "strengthening ribs" that provide longitudinal strength (column 2, lines 47-50). One having ordinary skill in the art would recognize that the motivation for providing longitudinal ribs on a supporting bracket would be to add strength to the bracket. Examiner asserts that the issue at hand is why one having ordinary skill in the art would include ribs on a bracket structure, not why one would want to make the structure stronger.

While the examiner asserts that Seitz provides proper motivation for implementing reinforcing ribs onto the bracket of Muir, examiner further notes that the specification of Muir discusses the desirability of providing stronger end caps. Examiner cites column 5, line 54 to column 6, line 17. In this passage, and as shown in figures 3A, 3B, and 3C, Muir discusses end 36 of the bar to include two angled section 35. The angled sections 35 engage a camming surface 64 (column 5, lines 55-59), on the end cap 60. One angled section 35 engages and slides along first surface 66, until the other angled section abuts the second surface 68 of the end cap (column 5, lines 59-62). Muir continues to state that the central recess 70 of the end cap 60, and the second surfaces 68, provide a dual sided containment area for the vent bar 34, which prevents any sash play (column 6, lines 6-8). This disclosure clearly shows the end cap being subjected to repeated forces. Strengthening the end cap would increase the service life of the part, by reducing the fatigue on the end cap. One having ordinary skill in the art would recognize that that strengthening a piece subject to repeated loads would be desirable, and this is commonly done by adding ribs to the structure, as explicitly shown by Seitz. For these reasons, it would be desirable to include the strengthening ribs of Seitz on the supporting bracket of Muir.



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In response to appellant's argument that Seitz is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the appellant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Seitz is reasonably pertinent to the particular problem with which the appellant is concerned. Both Seitz, and the instant application are concerned with strengthening the end caps of brackets. Examiner notes that Seitz is not cited for the teaching of mounting television and radio tuning coils, as appellant appears to be suggesting in the third paragraph on page 6 of the Appeal Brief. Seitz is cited as teaching a pair of ribs 12 to add longitudinal strength to bracket. One having ordinary skill in the art would look to the teachings of Seitz if they were looking to increase the strength of a bracket, as appellant is attempting.

Appellant further argues that the multi-bar linkage assembly of the instant application has increased resistance to outward or inward forces from pressure loading and seal compression (third paragraph, page 6 of the Appeal Brief). Examiner notes that although no structure is claimed that produces such forces, the combination of Muir and Seitz will provide such a function, as the combination is identical to the claimed structure of the appellant's invention. Examiner further notes that appellant appears to be making the "non-analogous art" argument that is addressed above, in paragraphs 4, 6, and 7, on page 5, and paragraph 3 on page 6, of the Appeal Brief.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Examiner asserts that hindsight reconstruction was not used when citing Kasai in the rejection. It is widely known in the art to add ribs to brackets, or any other structure to increase their load capacity. Both Seitz and Kasai show this, specifically referring to their respective ribs as "strengthening ribs" and "reinforcing ribs". One having ordinary skill in the art that is trying to increase the load capacity, or the strength of bracket, would look to the teachings of Seitz and Kasai. Additionally, Kasai shows the rib (170, 190) being formed from a piece of added metal. Kasai adds the reinforcing separately as a way of upgrading an existing structure (abstract). From these teachings, one having ordinary skill in the art would recognize that the ribs of Kasai may be added to the existing structure of Muir after a period of time, to upgrade Muir's bracket.

Appellant argues that the examiner has provided no basis for modifying Muir to provide a function that has no basis in the reference.

Examiner believes a basis has been provided for modifying Muir as taught Kasai. Examiner asserts that the issue at hand is why one having ordinary skill in the art would want to include at least one rib on a bracket, as claimed by appellant, not why one would want to strengthen the bracket, as argued by appellant. Both Seitz and Kasai disclose the reason for

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including ribs on a bracket to be to strengthen or reinforce the bracket. However, examiner further cites Muir's disclosure in column 5, line 54 to column 6, line 17, to show why one would want to strengthen the bracket of Muir. As discussed above, this passage of Muir discloses the end cap 60 of bracket to undergo repeated forces from the angled surface 35. One having ordinary skill in the art would want to strengthen this piece to give a greater work life, and resistance against fatigue.

Appellant also argues the examiner has not provided any basis for selecting the art of repairing damaged buildings having bracket fittings in steel frame structures. Examiner interprets this to be an argument that Kasai is non-analogous art.

In response to appellant's argument that Kasai is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the appellant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Kasai is reasonably pertinent to the particular problem with which the appellant is concerned. Appellant is concerned with strengthening the end cap of the structure so it can withstand a greater force. With regards to claims 7 of the instant application, this achieved by adding a piece of metal to the bracket. Kasai teaches adding a piece of metal (170, 190) to reinforce or upgrade a bracket. Therefore, both the appellant and Kasai are concerned with strengthening a bracket. Kasai achieves this in an identical manner as claimed by appellant (from an added piece of metal). For these reasons, one having ordinary skill in the art would look to the teachings of Kasai to strengthen or reinforce a bracket.

In conclusion, examiner believes that both Seitz and Kasai provided sufficient motivation for providing at least one rib on the end cap of Muir. Both Seitz and Kasai disclose their ribs to be a "strengthening rib" or "reinforcing rib" that is shown to reinforce a structure having a geometry similar to that of Muir's and of the instant application. One having ordinary skill in the art would look to the teachings of Seitz and Kasai to strengthen a bracket. The examiner asserts that the issue at hand is why one having ordinary skill in the art would want to include a rib in the structure of Muir, not why one would want to strengthen the structure of Muir. As disclosed in Seitz and Kasai, ribs are added to provide additional strength, reinforce the bracket, and increase load capacity. However, even if the issue was why one would want to strengthen the bracket, examiner believes Muir discloses a proper basis for strengthening the end cap of bracket, as it is subject to repeated forces from angled surface 35. Additionally, examiner asserts that one having ordinary skill in the art would look to the teachings of Seitz and Kasai, as both are pertinent to the particular problem to which the appellant is concerned. The particular problem is related to strengthening a bracket.

For the reasons above, it is believed the rejections should be sustained.

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Respectfully submitted,



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mk

June 30, 2004

Conferees

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